

Abstract

There is provided a new and improved apparatus and method for rolling workpieces such as crankshafts. The apparatus has first and second rolling heads mounted at spaced positions along a common rolling arm to receive a crankshaft bearing therebetween which can then be shifted
5 relative to one another along the common rolling arm to close the heads or rolling tools for clamping onto the workpiece. The in-line clamping action and force provided by the tools on the rolling arm are created by actuation of a tall, thin cylinder assembly including a number of aligned individual
10 cylinders sized to keep the width of the cylinder assembly to a minimum so that all of the rolling arms can likewise be of a thin construction pivotally mounted on one side of the crankshaft and axially spaced according to the crankshaft bearing spacing for rolling all of the bearings in a single rolling operation. A strain sensor can be utilized to generate clamping force
15 readouts that are based on the amount of structural deflection of the arm detected by the sensor.